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ABSTRACT

Studies suggest that the traditional technique of one-way lectures used most often by teachers results in about 42% retention after class, and 17% a week later. To improve both student learning and institutional effectiveness, colleges should support faculty development programs that expose teachers to two-way teaching and learning processes. Using two-way processes, teachers facilitate learning by means of cooperative and active learning strategies and strive to receive immediate and anonymous feedback from students using strategies collectively known as Classroom Assessment Techniques (CATs). One example of these techniques is the assignment of a short paper requesting students to describe the most important concept that they learned in the class that day or state what important questions remained unanswered. From Fall 1988 to Spring 1992, the College of Marin, in California, participated in an on-site pilot-test of the CAT program. In Spring 1993, 58 of the 70 participating faculty were surveyed regarding their experiences. Of the 20 faculty who responded, 85% were still using the CATs; another 85% saw a beneficial impact on their teaching; and two-thirds felt that the CATs positively impacted students. Grades, examination performances, progress, and project quality all improved during the 4 year program. To implement effective faculty training programs in CATs, colleges should plan ahead carefully, design programs to last at least one semester, use sound teaching and learning principles, provide ongoing support, use faculty participants as recruiters, offer tangible and intangible incentives, and make participation voluntary and non-threatening. (ECC)

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leadership abstracts

PROFESSIONAL DEVELOPMENT FOR TWO-WAY TEACHING AND LEARNING

Nancy E. Stetson

ED 367 430

Too often, community college students fail to learn what instructors are teaching because instructors routinely use a teaching process that only works about 17 percent of the time. K. Patricia Cross points out that "teachers in the average classroom spend about 80 percent of their time lecturing to students, who are attending to what is being said only about half the time." According to J. McLeisch, it gets worse: After the lecture, students carry away in their heads and in their notebooks not more than 42 percent of the content. And, says Cross, it gets even worse: A week later, students can recall only 17 percent of the lecture material.

These findings beg the question: If lecturing, the dominant form of instruction in community colleges, works only 17 percent of the time, why do community college instructors use it so extensively? Several plausible explanations have been advanced, but nearly all harken back to traditional practices and models of instruction that are centuries old. Perhaps an equally important question is what can community college leaders do to assist faculty in moving from one-way teaching methods to two-way teaching and learning processes—both to improve student learning and to ensure the effectiveness of the institution's educational mission in an era of increasing accountability?

One-Way and Two-Way Processes

Community college presidents can help students learn by supporting faculty development programs that help faculty to understand the limitations of traditional one-way instructional processes and to learn two-way teaching and learning processes.

The reasons one-way processes do not work are clear. The instructor sends the lesson to the students, and students either receive the lesson or they do not. If they do not, the instructor may not know it until it is too late to help, perhaps in the middle or end of the term. Except for psychomotor learning, the instructor cannot immediately see which students learned the lesson and which did not. Cognitive and affective learning are internal, usually invisible processes.

Using two-way processes, the instructor facilitates the learning experience for the students by means of a variety of cooperative and active learning methods. Once again, students either learn the lesson or they do not. However, using a variety of strategies for receiving feedback from students collectively called Classroom Assessment Techniques (CATs), teachers know when students are not learning what is intended to be taught because students regularly give them visible (often written), immediate, and anonymous feedback.

Classroom Assessment Techniques (CATs)

In 1988, K. Patricia Cross and Thomas A. Angelo developed a handbook on classroom assessment techniques designed to help faculty find out if students were learning what they were teaching. Many of the 30 original techniques, expanded to 50 in the recently published second edition, are being used by college faculty throughout the nation to get visible, immediate, and anonymous feedback from their students. The use of these techniques is one way to help make teaching and learning a two-way process.

An example of a frequently used technique is the One-Minute Paper. It provides a quick and simple way to collect written feedback on student learning. To use the One-Minute Paper, the instructor stops class a few minutes early and asks students to respond briefly to some variation on the following two questions: "What was the most important thing you learned today?" and "What important question remains unanswered?" Students write their responses on index cards or half-sheets of paper and hand them in. The instructor uses the responses to find patterns of important things students have not yet learned about the topic so that he can re-teach these things at the beginning of the next class. This technique can be used in small or large classes and, if an instructor insists on lecturing, even in a lecture class.

College of Marin's CAT Program

Angelo pilot tested the use of the techniques, a component of the Cross and Angelo Classroom Research model, at several community colleges beginning in fall 1988. College of Marin in Kentfield, California, was one of those community colleges. Now, five years later, thousands of College of Marin students are giving feedback to their instructors every semester on what they are learning or not learning, helping to make teaching and learning a two-way process.

From fall 1988 to spring 1992, 70 College of Marin faculty participated in a four-year on-site Classroom Assessment Training program, partially funded by the Marin Community Foundation. Fifty eight of those 70

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faculty were surveyed in spring 1993; twenty, or 35 percent, responded to the survey. Although the number of faculty represented by the survey results was modest, their comments provide a useful basis for judging the impact of the CATs training program.

Impact on Teaching. One to four years after receiving their last semester of training, 85 percent of the faculty responding to the survey were still using CATs. Sixty percent were using them three or more times a semester. Eighty-five percent of the faculty believed their use of CATs had a positive impact on their teaching. Twenty-five percent specifically mentioned feedback: "More direct feedback; keeps my plans focused." One faculty member had integrated CATs into her classes so completely that she found it difficult to tell when she was not using one. She said, "It seems strange, now, to teach without frequent feedback." Others commented on how using CATs had changed some of their approaches to instruction: "After receiving feedback, I focus the subsequent assignments on their perceived needs." "I prepare my lecture after receiving the feedback from students to cover the material they are having difficulty learning."

Impact on Learning. Two-thirds of the faculty believed their use of CATs had a positive impact on student learning. One faculty member wryly commented that she did not know if her comprehensive use of CATs had a positive impact on learning because "sometimes the students seemed to get it better before I started checking what they really knew." Another said, "Students always become more verbal, articulate in their needs when asked to participate in class; more confident, willing to express themselves. Students learn better in classes if they participate; are asked to participate via their feedback." "They receive feedback about fellow students' needs and understandings."

Five-Year Results. Fifty percent of the faculty said they had evidence that their use of CATs had a positive impact on teaching or learning, or both. Half mentioned grades; the other half mentioned other indicators such as student performance on final examinations, increased class participation, improved quality of term projects and portfolios, and increased rates of progress.

Some of the best evidence was the satisfaction that instructors took in what they perceived to be the improved performance of their students as a result of their using Classroom Assessment Techniques. "As an instructor every quarter for nine years at the College of Marin, I know students gain more, learn more, are more satisfied when they participate and express themselves in classes. Classes are fuller, livelier, brighter." Another said, "I learn things I could not have guessed or anticipated (and I thought I knew my students)."

Recommendations for a Successful Program

The following recommendations are based on five years experience in providing training in the use of Classroom Assessment Techniques for faculty at the College of Marin and dozens of community colleges throughout the nation:

1. Plan carefully and plan for the long term. Unlearning old one-way behavior and learning new two-way behavior takes time.
2. Offer systematic and substantive training over a period of at least one semester. One-day workshops usually will not result in changed behavior.
3. In designing the training, use what is already known about good teaching and learning. Proven principles include frequent trainer contact with the faculty; prompt feedback from the trainer to faculty; use of cooperative and active learning strategies; encouragement of faculty to use CATs frequently; use of a variety of teaching methods, including small groups and CAT training videos—three of which have been coproduced by the College of Marin and the University of California, Berkeley; clear expectations about what the faculty are to learn, such as written course outlines, homework, and learning contracts; and the use of an enthusiastic and expert trainer.
4. Provide ongoing support for individuals and groups, for example, one-on-one consultations with the staff development officer, monthly meetings of participants, and "study buddies."
5. Use faculty participants as recruiters for the program. They can make presentations to groups during staff development days, or recruit one on one.
6. Offer incentives, both tangible and intangible, to those who participate fully, including stipends, food, pleasant workshop environment, opportunities for presentations, encouragement for publications, and other support.
7. Last, but not least, make faculty participation in the program voluntary and nonthreatening.

Community college presidents can help students succeed by supporting faculty development programs in Classroom Assessment Training and other programs that have proven themselves successful in positively changing faculty behavior. These programs include Great Teachers Seminars, Instructional Skills Workshops, Learning Styles Training, and Student-Centered Instructional Practices. Strong faculty development programs can help faculty learn how to open up the one-way process of teaching and turn it into the two-way process of teaching and learning, and thus improve student learning. Such programs can also help colleges apply innovative instructional methodologies to meet the changing needs of students in a fast-changing world.

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